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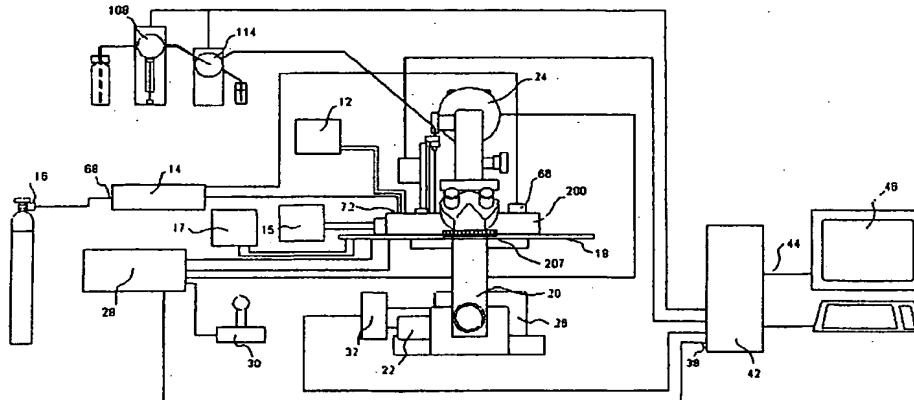
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(57) Abstract: For purposes of determining the function of a protein, an automated system captures images of cells, each cell located in a predetermined well. After a given cell is exposed to a protein of interest, the system measures the responses of the cell over time, evaluating a variety of cellular parameters. Analytical software within the system evaluates data generated by these measurements, at single-cell resolution. By comparing with various controls the data thus obtained, the system illuminates the function of a protein with respect to one or more disease models, independent of information regarding the structure, chemistry or underlying genomics of the protein.